Remarks/Arguments

Applicants respectfully request consideration of the subject application as amended herein. A RCE accompanies this Amendment.

Claims 1-22 have been rejected.

In this Amendment, claims 1 and 14 have been amended. Claim 17 has been canceled. It is respectfully submitted that the amendment does not add new matter.

Applicants reserve all rights with respect to the applicability of the Doctrine of Equivalents.

The Office Action has rejected claims 1, 2, 5, and 6 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,215,663 of Radulovic ("Radulovic").

Applicants reserve the right to swear behind Radulovic.

Claim 1, as amended, reads as follows.

> A system comprising:
> a plurality of real-time routing servers to route and process multimedia communication sessions over a network;
> a group server to manage the multimedia communication sessions over the network, wherein the group server is associated with the plurality of routing servers;
> a plurality of end-point processing devices to schedule and conduct multimedia communication sessions over the network, wherein each end-point processing device is associated with at least one routing server and the group server.

The Office Action characterizes Radulovic as teaching a system with a plurality of real-time routing servers (conference server 70 and V-Link server 6), a group server (CAS 40) associated with the routing servers, and a plurality of end-point processing devices to schedule and conduct multimedia communications sessions over the network. (See Office Action dated 01/04/08, pages 2 and 3). Applicants respectfully disagree with this characterization of Radulovic.

Radulovic discloses an internet linked network architecture that delivers telecommunication type services across a network utilizing digital technology. (Radulovic, Abstract). FIG. 2a represents the control paths that are established between various network devices and central arbitration server (CAS) 40 as the network devices "log in" to the network. The continuous control line structure is illustrated for gateways 50a and 50b, the conference server 70, the V-Link enhanced service platform 60, and the CAS 40. (Radulovic, col. 14, lines 18-24). Communication engine (CE) 50 is a VoIP gateway in the private IP network. The CE uses IMCP to communicate. In one embodiment, CE 50 is an industrial PC with enough network cards and DSP resources to handle ten T1 lines worth of telephone calls. Future plans for an embedded version and larger, compact PCI version will enable CE 50 to carry more calls and be more reliable. CE 50 acts like a gateway from an information poor PSTN signal to an information rich IMCP network. (Radulovic, col. 12, lines 35-45). Each CE illustrated in Figure 1 acts as a gateway between a central office (CO) and the IP Network 120. Thus, Radulovic discloses gateways (CE 50) that interface between a CO and the IP network 120.

By contrast, Radulovic does not disclose or teach the CAS 40 (conference server) being associated with the plurality of routing servers. Radulovic does not disclose or teach end-point processing devices to schedule and conduct multimedia communication sessions over the network because the CE 50 are gateways that interface between central offices and the IP network 120. Furthermore, Radulovic is silent regarding the CE 50 devices scheduling and conducting multimedia communication sessions. Thus, Radulovic does not disclose or teach the limitation "a

plurality of end-point processing devices to schedule and conduct multimedia communication sessions over the network, wherein each end-point processing device is associated with at least one routing server and the group server" as recited in amended claim 1 because the communication engines 50 in Radulovic are gateways that interface between a central office and the IP network 120, not end-point processing devices.

Therefore, Radulovic does not disclose or teach the limitations of amended claim 1. As such, amended claim 1 is not anticipated by Radulovic under 35 U.S.C. § 102(e).

It is submitted that dependent claims 2, 5, and 6 are not anticipated by Radulovic under 35 U.S.C. § 102(e) given that claims 2, 5, and 6 depend from and include the limitations of independent claim 1.

The Office Action has rejected claims 14, 15, and 17 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,215,640 to Matsubara.

Applicants reserve the right to swear behind Matsubara.

Claim 14, as amended, reads as follows.

> A method for reserving bandwidth and media processing resources, comprising:
>
> checking whether media processing resources on a source real-time routing server are sufficient for a user to join a multimedia communication session in order for the user to communicate with all users participating in the multimedia communication session;
>
> for a multimedia communication session involving multiple real-time routing servers, sending reservation requests from the source real-time routing server to all destination real-time routing servers;
>
> checking for notifications of successful bandwidth reservations for paths from the source real-time routing server to destination real-time routing servers;
>
> checking for notification of successful media processing resource reservations for destination real-time routing servers, wherein if the notifications of successful bandwidth reservations and successful media

processing resource reservations are not received with a preset time period, then the notifications are not considered to have been received.

Matsubara discloses a method and apparatus for path configuration in networks. The network includes nodes coupled by links for in-line communication, a network management system (NMS), and a trunk management system. The links of the network are identified as having a particular data handling capability. The data handling capability of each link is assigned, either in whole or in part to the nodes, which manage data communicating and admission to the network, based on the node data handling capability. The NMS allocates a particular bandwidth to each direction specific link. (Matsubara, col. 5, lines 30-55).

Matsubara also discloses:

> The decision for a path reconfiguration may be limited during initialization (e.g., set to only make a certain number of requests per unit of time), or based upon resource status.
>
> Step 180, FIG. 5: A path reconfiguration attempts to temporarily re-allocate bandwidth to one or more of the Provisioned Links of the desired path.
>
> Step 182, FIG. 5: If insufficient resource is recovered by the path reconfiguration of step 180, the procedure passes to step 184 where the first-hop node returns a "reject" to the requester (source terminal) and then the procedure ends. If the path reconfiguration process does obtain sufficient resource, the procedure will proceed to step 170, described below.

(Matsubara, col. 7, lines 8-21).

Thus, Matsubara discloses that the decision for a path configuration may be limited by setting only a certain number of requests per unit of time.

Matsubara does not disclose or teach the limitation "wherein if the notifications of successful bandwidth reservations and successful media processing resource reservations are not received with a preset time period, then the notifications are not

considered to have been received" because Matsubara only discloses limiting the number of requests per unit of time, not notifications of successful bandwidth reservations and successful media processing resource reservations.

Therefore, Matsubara does not disclose or teach the limitations of amended claim 14. As such, amended claim 14 is not anticipated by Matsubara under 35 U.S.C. § 102(e).

It is submitted that dependent claim 15 is not anticipated by Matsubara under 35 U.S.C. § 102(e) given that claim 15 depends from and include the limitations of independent claim 14.

The Office Action has rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over Radulovic in view of U.S. Patent No. 6,418,139 of Akhtar ("Akhtar").

Claim 3 depends from and include the limitations of independent claim 1 noted above. It is submitted that Akhtar fails to cure the deficiencies of Radulovic noted above with respect to claim 1 and, therefore, claim 3 is patentable over the combination of cited references.

The Office Action has rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over Radulovic in view of U.S. Patent No. 6,950,407 of Huddle ("Huddle").

Claim 4 depends from and include the limitations of independent claim 1 noted above. It is submitted that Huddle fails to cure the deficiencies of Radulovic noted above with respect to claim 1 and, therefore, claim 4 is patentable over the combination of cited references.

The Office Action has rejected claims 7-13 under 35 U.S.C. §103(a) as being unpatentable over Radulovic in view of Matsubara.

Claim 7 reads as follows.

> A method for determining a topology of a network, comprising:
> obtaining from a group server respective addresses for real-time routing servers to route and process multimedia data and communication sessions over the network;
> setting a static neighbor configuration;
> determining a dynamic neighbor configuration based on quality of service levels for respective paths between real-time routing servers, hop counts along paths, delays between real-time routing servers, bandwidth capacity between real-time routing servers, and common path traffic between real-time routing servers.

The Office Action indicates that Radulovic does not disclose the limitation "determining a dynamic neighbor configuration based on quality of service levels for respective paths between real-time routing servers, hop counts along paths, delays between real-time routing servers, bandwidth capacity between real-time routing servers, and common path traffic between real-time routing servers" as recited in claim 7. (Office Action, page 6, 01/04/08). The applicants agree with the Office Action regarding Radulovic not disclosing the above limitation of claim 7.

The Office Action also indicates that Matsubara discloses the above limitation of claim 7 at col. 5, lines 42-54 of Matsubara. Matsubara discloses at col. 5, lines 42-54 the following:

> The NMS controls the first-hop, last-hop and transit nodes to set the data communication characteristics of their outputs, in effect setting path or link bandwidth as a communication class (for this example class A). Using conventional differential service (DiffServ) architecture, or other QoS implementations, the output queues and associated queue control circuitry is set to have the nodes classify, mark, police, shape and prioritize packets. Thereby, the NMS allocates a particular bandwidth to each direction specific link. Such links are referred to as "Provisioned Links." A Provisioning Table identifies each provisioned link by the two nodes it connects. In the table, each link is assigned communication characteristics, for example, a bandwidth.

Thus, Matsubara discloses that the network management system (NMS) allocates a particular bandwidth to each specific link based on a communication class. The output queues and associated queue control circuitry is set to have the nodes classify, mark, police, shape, and prioritize packets based on QoS implementations.

By contrast, Matsubara does not disclose or teach determining a dynamic neighbor configuration based on hop counts along paths, delays between real-time routing servers, and common path traffic between real-time routing servers. Thus, Matsubara does not disclose or teach the limitation "determining a dynamic neighbor configuration based on quality of service levels for respective paths between real-time routing servers, hop counts along paths, delays between real-time routing servers, bandwidth capacity between real-time routing servers, and common path traffic between real-time routing servers" as recited in claim 7 because Matsubara is merely concerned with allocating bandwidth for each specific link.

Therefore, Matsubara does not disclose or teach the limitations of claim 7.

It is respectfully submitted that Radulovic does not suggest a combination with Matsubara, and Matsubara does not suggest a combination with Radulovic because Radulovic teaches away from such a combination. Radulovic teaches a private IP communication network architecture while Matsubara discloses bandwidth allocation of specific paths within a network. It would be impermissible hindsight to combine Radulovic with Matsubara based on applicants' own disclosure.

Furthermore, even if Radulovic and Matsubara were combined, such a combination would lack at least the limitation "determining a dynamic neighbor configuration based on quality of service levels for respective paths between real-time

routing servers, hop counts along paths, delays between real-time routing servers, bandwidth capacity between real-time routing servers, and common path traffic between real-time routing servers" as recited in claim 7.

Therefore, in view of the above distinction, neither Radulovic nor Matsubara, individually or in combination, disclose each and every limitation of claim 7. As such, claim 7, is not rendered obvious by Radulovic in view of Matsubara under 35 U.S.C. § 103(a).

It is submitted that claims 8-13 are not rendered obvious by Radulovic in view of Matsubara under 35 U.S.C. § 103(a) given that claims 8-13 depend from and include the limitations of independent claim 7.

The Office Action has rejected claim 16 under 35 U.S.C. §103(a) as being unpatentable over Matsubara in view of Radulovic.

Claim 16 depends from and include the limitations of independent claim 14 noted above. It is submitted that Radulovic fails to cure the deficiencies of Matsubara noted above with respect to claim 14 and, therefore, claim 16 is patentable over the combination of cited references.

The Office Action has rejected claims 18-22 under 35 U.S.C. §103(a) as being unpatentable over Matsubara in view of U.S. Patent No. 7,076,540 to Kurose et al. ("Kurose") and U.S. Patent No. 7,299,349 to Cohen et al. ("Cohen").

Claim 18 reads as follows.

> A method for reserving bandwidth in a network comprising:
> receiving at a first real-time routing server a bandwidth reservation request from an upstream real-time routing server;
> determining whether at least one downstream path to a destination real-time routing server has enough bandwidth;

if the first real-time routing server is a transit real-time routing server and not a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and leaving a usage count unchanged;

if the first real-time routing server is a destination only real-time routing server or a destination and transit real-time routing server, then reserving bandwidth for a path between the first real-time routing server, and the upstream neighbor real-time routing server;

if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one, wherein the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing.

The Office Action indicates that Matsubara does not disclose the following limitations "if the first real-time routing server is a destination only real-time routing server or a destination and transit real-time routing server, then reserving bandwidth for a path between the first real-time routing server, and the upstream neighbor real-time routing server; if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one" as recited in claim 18. (Office Action, page 9, 01/04/08). The applicants agree with the Office Action regarding Matsubara not disclosing the above limitations of claim 18. Matsubara also does not disclose "wherein the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing" as recited in amended claim 18.

The Office Action also indicates that Kurose discloses the above limitations of claim 14 at Figure 4 and bandwidth-reservation decision unit 58 of Kurose. Figure 4 illustrates a RSVP compatible router 50 that includes the bandwidth-reservation decision unit 58 that performs processing. When the bandwidth-reservation decision unit 58 decides not to permit a bandwidth reservation, the bandwidth-reservation decision unit 58 sends rejection information n to the client 41. When the bandwidth-reservation decision unit 58 decides to permit a bandwidth reservation, the SNMP transmission unit 63 sends bandwidth-reservation information e to the policy server 80. Thus, the bandwidth-reservation decision unit 58 forwards the bandwidth-reservation information e to the policy server 80, which is not a routing server. The policy server 80 functions as a service assignment apparatus which assigns appropriate setting in the router 70 based on bandwidth information in the router 50. (Kurose, col. 7, lines 56-59).

By contrast, Kurose is silent regarding the router 50 being a combination of destination server for processing data and transit server for transferring data depending on the requirements of the data. Kurose does not disclose or teach at least the limitations "if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one, wherein the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing" as recited in amended claim 18.

Therefore, Kurose does not disclose or teach the limitations of claim 18.

The Office Action indicates that Cohen teaches the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing at col. 8, lines 29-45. Cohen reads as follows at col. 8, lines 29-45.

> The notification source 401 then initiates transmission of the push message 500 to the notification sink 403 (act 304) via the at least one message transit point 404. Although the push message 500 traverses through the at least one transit points 404, the notification message portion of the push message is encrypted. Since the at least one message transit point 404 is not privy to the security information originally negotiated in act 302, the at least one message transit point 404 is not able to decrypt the notification message 502. Once the notification sink 403 receives the push message 500 (act 305), the notification sink 403 decrypts the encrypted notification message 502 using the security information previously negotiated (security information 421) along with potentially the supplemental security information 501 (act 306). Thus end-to-end security is provided since only the notification source 401 and the notification sink 403 are able to access the clear text content of the notification message.

The Office Action has not specifically indicated which component of Cohen teaches the first real-time routing server. However, the Applicants are assuming that the message transmit point 404 is being used to teach the first real-time routing server. The message transmit point 404 is not able to decrypt the notification message 502 and forwards this message 502 which is part of the push message 500 from the notification source 401 to the notification sink 403.

Cohen does not disclose or teach a first real-time routing server that concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing because Cohen merely discloses a message transmit point 404 that forwards a push message 500 with an encrypted message 502 from the notification source 401 to the notification sink 403. Cohen does not disclose or teach at least the limitations "if the first real-time routing

server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one, wherein the first real-time routing server concurrently functions as a transit server to transfer media data not needing processing and a destination server to process media data needing processing" as recited in claim 18.

It is respectfully submitted that Matsubara does not suggest a combination with Kurose, and Kurose does not suggest a combination with Matsubara. Matsubara teaches a path configuration in a network while Kurose teaches a service assignment apparatus. It would be impermissible hindsight to combine Matsubara with Kurose based on applicants' own disclosure.

It is respectfully submitted that Matsubara does not suggest a combination with Cohen, and Cohen does not suggest a combination with Matsubara. Matsubara teaches a path configuration in a network while Cohen teaches secure end-to-end notification. It would be impermissible hindsight to combine Matsubara with Cohen based on applicants' own disclosure.

Furthermore, even if Matsubara, Kurose, and Cohen were combined, such a combination would lack at least the limitations "if the first real-time routing server is not only a transit real-time routing server but also a destination real-time routing server, then forwarding the bandwidth reservation request to a downstream neighbor real-time routing server that has enough bandwidth and incrementing the usage counting by one, wherein the first real-time routing server concurrently functions as a transit server to

transfer media data not needing processing and a destination server to process media data needing processing" as recited in claim 18.

Therefore, in view of the above distinction, neither Matsubara nor Kurose nor Cohen, individually or in combination, disclose each and every limitation of claim 18. As such, claim 18, is not rendered obvious by Matsubara in view of Kurose in further view of Cohen under 35 U.S.C. § 103(a).

Independent claim 20 contains similar limitations but not identical compared to the limitations of claim 18. For similar reasons, independent claim 20 is not rendered obvious by Matsubara in view of Kurose under 35 U.S.C. § 103(a).

It is submitted that claims 19, 21, and 22 are not rendered obvious by Matsubara in view of Kurose in further view of Cohen under 35 U.S.C. § 103(a) given that claims 19, 21, and 22 depend from and include the limitations of one of the corresponding independent claims 18 and 20.

Conclusion

Applicant respectfully submits that in view of the amendments and discussion set forth herein, the applicable rejections have been overcome.

If there are any additional charges/credits, please charge/credit our Deposit Account No. 02-2666.

Respectfully submitted,
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